

fauna consists of a group of specialized sea-urchins and of gastropods among which *Turritellæ* are very prominent.

The Author emphasizes the uniformity of the Lower Eocene throughout Egypt, its triple subdivision being recognizable over vast areas. In the Middle Eocene this uniformity is replaced by differentiation, the well-known regions of the Fayûm and the Moqattam Hill differing from the succession in the area selected as typical in this paper. In the latter, five zones have been recognized in the lower division, while in the Upper Moqattam the *Turritella*-beds and the strata rich in *Carolia placunoides* and *Plicatula polymorpha* are of zonal importance. The Lower Moqattam is considered as beginning with the *Nummulites-gizehensis* zone and closing with the *Gistortia*-bed, to the significance and extent of which attention is especially directed.

The Author discusses the relation between the Cretaceous and Eocene beds, and points out that they differ lithologically, limestones being dominant in the Lower Eocene and shales in the Upper Cretaceous.

Palæontologically, great groups such as the Ammonites still abundant in the Upper Cretaceous disappear in the Eocene and are replaced by the characteristic nummulinid foraminifera. On the other hand, both periods bear a strong resemblance to each other in the dominance of oysters and sea-urchins over other forms. A notable feature is the comparative rarity of brachiopoda in Egypt throughout both periods, nor have belemnites been recorded from the Egyptian Cretaceous.

Among post-Eocene formations the calcareous grits are shown to have a wide extension; but in the Desert they differ in character from the mammal-yielding beds of the Fayûm. The question as to the Upper Eocene or Oligocene age of these beds is left over.

The quartz-chert gravels appear to be closely related to the calcareous grits, but are unconformable upon them. This continental phase is accompanied by volcanic and geyser activity.

The Cretaceous Period in Egypt was therefore one, in the main, marked by the gain of sea over land, the Eocene was one of rest, while at the close of the Eocene and during the Oligocene the approach of a continental phase is clearly indicated.

MISCELLANEOUS.

RICHARD BOWDLER SHARPE, LL.D.

DR. RICHARD BOWDLER SHARPE, the eminent ornithologist, died on Christmas Day at his residence in Chiswick. Dr. Sharpe was born in London on November 22nd, 1847, and was educated at Brighton, and at Peterborough and Loughborough Grammar Schools. Even as a boy he was an enthusiastic naturalist, and in his holidays at Cookham made a collection of Birds, which he

afterwards presented to the British Museum. He came to London in 1863, and served with Messrs. W. H. Smith and then with Bernard Quaritch, leaving the latter in 1867 to take the post of Librarian to the Zoological Society, which he held until 1872. During this period every hour which he could get for himself was spent in the study of Birds and in making a private collection of them.

The 'Monograph of the Alcedinidæ (Kingfishers),' published in parts from 1868 to 1871, was a remarkable work to have been accomplished by so young a man under such conditions. In the preface he asked for some slight consideration "for an author who commences so large an undertaking at the age of seventeen, and who as he pens these last words has not attained to the age of twenty-three." This was unnecessary, for the Monograph at once established his reputation, and still remains a model which any who project a monographic work may study with advantage. The introductory chapters dealt with the relationship of the various genera and species, their geographical distribution, &c., with a chronological account of the literature. Then came a description of the anatomy of the Kingfishers, written by Dr. Murie; followed by the systematic part, including full and careful descriptions of each species, their habits and distribution, illustrated with 120 coloured plates.

A 'History of the Birds of Europe' had now been commenced with Mr. H. E. Dresser, and the first parts appeared in 1871; but in the following year Dr. Sharpe was appointed a Senior Assistant in the British Museum, and left the completion of this work to his collaborator, in order to devote himself to the task of building up the national collection of Birds and writing a catalogue.

How he succeeded is well known; the collection increased in number from about 30,000 to more than 400,000 specimens, and this stupendous result was chiefly due to the personal qualities of Dr. Sharpe himself. He started by presenting his own private collection, he spent his vacations in collecting, and with his own money he purchased *desiderata*, rather than allow the museum to lose them. Moreover, he infected with his own enthusiasm most of those with whom he came in contact, visitors to the museum, travellers, collectors, and others; and in consequence, as he has often told the present writer, he never missed a collection that he wanted.

The 'Catalogue of Birds' took 24 years to finish, and ran to 27 volumes, 13 of which were written by Dr. Sharpe without collaboration; of these it may truly be said that they are the most complete works of the kind that have ever been written; in fact, the keynote of Dr. Sharpe's work was thoroughness.

The Catalogue was supplemented by a 'Nomenclator Avium, or Hand-list of Birds,' in five volumes, the first of which was published in 1899, whilst the last has only recently been issued.

One of the most attractive features of the exhibition galleries of the British Museum (Natural History) is the series of British Birds

and their nests, mounted so as to represent the actual surroundings; this was initiated by Dr. Sharpe, who procured the first of these natural groups, that of the Coots, at Avington Park, in Hampshire.

Dr. Sharpe was promoted to the rank of Assistant-Keeper in 1895; he was the author of numerous books and memoirs in addition to those already mentioned, a successful and popular lecturer, and an honorary member of many scientific societies both at home and abroad. He was elected *Officier de l'Instruction Publique* in 1901, and amongst the distinctions he gained were the degree of LL.D. from the University of Aberdeen in 1891, the gold medal for science awarded him in the same year by the Emperor of Austria, and the presidency of the Fourth International Ornithological Congress in 1905, honours the more prized as they were won entirely by merit and hard work.

He will be mourned by naturalists throughout the world, by thousands who have derived instruction and entertainment from his lectures and his popular books, and especially by the colleagues who will miss his friendly help and genial presence; but the national collection of Birds will remain as a magnificent record of a life of devoted and unceasing activity.

C. T. R.

On the Dates of Publication of Costa's 'Fauna del Regno di Napoli,' 1829-1886.

THIS work, begun by O. G. Costa in 1829 and continued after his death by his son Achille Costa, was issued in fasciculi of varying amounts of text. A single leaf of brownish-yellow paper bearing a rough collation of the subjects that had appeared up to the end of 1875 was issued by Gustav Lange. This collation refers to 117 fascicules, but their contents are not given, and no reference is made to any dates.

The dates, however, are not so puzzling as appears at first sight, owing to a singular method of dating by the printer, which, as the only means of information now available, may be accepted as very close to the truth. These printed dates will be found on the back fold or near the back fold of the sheet or half-sheet or single leaf, for each appeared as necessitated by the amount of matter in the printer's hands. Sometimes, if the sheet is not folded truly, the date can be seen by widely opening the bound volume, but frequently the sheet is folded truly and the date has perished under the binder's glue!

As the full list of dates runs to twelve closely written foolscap pages of MS., I do not propose to ask you to do more than to note that this MS. of mine is available for reference at the British Museum (Nat. Hist.) to any one who is desirous of ascertaining any particular date. It may be well to mention that I have not been able to find that the printer so dated any part of the Lepidoptera except the "Geometri, Bombicoidi, and Cœliopodi."

C. DAVIES SHERBORN
(*'Index Animalium'*).

Nov. 25, 1909.